Specifications for Construction of NEFSC Standard #36 Bottom Survey Trawl (60 - 80)

Body of the Net

Dimensions of the sections are shown on the attached net plan and cutting diagram. Webbing for wings, square, and bellies is 5" stretched mesh measured knot center to knot center (or 4 ¾" inside measurement). It is single selvedge, stretched, and stabilized. The webbing is woven with white #96/108 (3 mm) (Rtex 5263), 16-carrier virgin braided nylon twine. Webbing in the codend is 4 1/2" stretched mesh, center-to-center, single selvedge, stretched, and stabilized. Twine for the codend webbing is white #182 (Rtex 11764), 16-carrier virgin braided nylon.

Net sections are joined together by sewing a half mesh row of double twine of a contrasting color for easy identification of sections (usually red shot cord).

The top and bottom sections of the net are joined together at their sides by a gore or laceage. Gathering six knots from each of the top and bottom sections makes the gore. These are seized every foot and wrapped in between the seizings using single #120 (Rtex 8333) thread-braided nylon twine.

Dog-ear meshes are sewn onto top and bottom wings with single #182 thread-braided nylon twine.

Gore Lines

Gore lines are 3/4" diameter PolyDacron ropes that run from the after end of the codend to the top of the wing end where the rope is tied into the head rope eye splice. The gore line is slightly shorter than the laceage and is seized to the laceage at intervals of 18 inches.

Footrope

The footrope is constructed from 120' (20 fathom) total length of 3/4" diameter polydacron (polyplus) rope. This length is used to construct the 100' (16.67 fathom) footrope including eye splices, and the seven-foot up-and down lines. The remainder of the rope at each end is tied into the wing end eye of the head rope, with the excess seized back down the door end line. Lower wings are hung in 45' (7½ fathom) lengths while the lower belly is hung in a 10' (1.67 fathom) length.

Belly Lines

Belly lines are two strengthening lines on the bottom belly made of 5/8" Poly Dacron. They are seized to the footrope at the corner and run out and back to the gore line on the bar of the belly webbing. They are seized to the webbing and to the gore line.

Headrope

The headrope is made of 7/8" diameter nylon or polypropylene and steel combination rope with a fiber core. It consists of three 20' (31/3 fathom) sections. Each section has eyes spliced at each end without thimbles and sections are joined by 1/2" hammerlock links. The square is hung in 12' (2 fathom) and the wings are hung in 24' (4 fathom) lengths.

Hanging

The dogs on the wings are hung to the headrope and the footrope with hanging meshes of single #120 braided nylon twine. The belly and the square selvedge meshes are evenly hung on the bosom sections of

the footrope and the headrope with single #120 braided nylon twine. The hanging lengths for the wings and bosom on the headrope and footrope are shown on the attached plan. Each dog is seized to the headrope with bar-tight seizings.

Up-and Down

Door end meshes of the bottom wing are evenly hung on the seven-foot up-and-down line that runs from the footrope to the headrope. The end meshes of the top wing are gathered together and seized into the headrope eye splice with single #120.

Floats

There are 36 eight-inch spherical aluminum floats. The floats have a 5/8" polypropylene line threaded through their double beckets. This poly line is then seized to the headrope. Float arrangement: 20 floats evenly spaced on the center 20' (31/3 fathom) section of headrope, and 8 floats evenly spaced on each 20' (31/3 fathom) side section. The first float is 18 inches from the wing end. Float line is seized to backside of the headrope, so floats lie above the webbing and behind the headrope.

Fishing line (Not the footrope and not a fishing line)

10/28/02 - *The terminology for this piece is being changed from "traveler" to "fishing line". This was previously called a "fishing line" but was changed to "traveler" to differentiate it from the footrope. No change in the configuration of the net has resulted from the change in the terminology of this piece.*

The Fishing line is made up of five lengths of 5/8" diameter combination rope with eyes spliced in each end without thimbles and joined with 1/2" hammerlocks. These lengths, from wing end to wing end are 23'(3.83 fathom), 9½' (1.58 fathom), 16'(2.67 fathom), 9½'(1.58 fathom), and 23'(3.83 fathom). Measurements are total overall length, including eye splices. Combination rope is a combination of nylon or polypropylene strands and steel wire with a fiber core.

Sweep

The sweep is made up of five sections of 3/4" diameter 6 x l9 fiber core, galvanized wire rope. The sections have eyes without thimbles. The sections are joined with 5/8" hammerlocks. The lengths of the sections from wing end to wing end are 22½'(33/4 fathom), 9½'(1.58 fathom), 16'(2.67 fathom), 9½'(1.58 fathom), and 22½'(33/4 fathom). Dimensions are total lengths including splices. The wing end sections 22½ feet each, have 4" diameter rubber tire stampings cookies) on their entire length with 7 link roller chains (toggles) every 2'. The roller chains consist of a 3" I.D. ring of 3/8" steel rod at each end linked together by 7 links of 5/16" chain. The distance between the end rings is 8". The footrope is passed through the ring at one end of the roller chain. The fishing line is passed through the ring at the other end of the roller chain, except for the roller chains located at joins of the fishing line or the footrope; then the ring is inserted in the split link or the shackle used to join the two sections.

The two 9½' (1.58 fathom) long sections and the center 16' (2.67 fathom) section have 16" diameter by 5" wide "Fenner" or equivalent solid, hard rubber (no spokes) rollers on them. Two rubber spacers, each 7" in length by 5" in diameter, separate these rollers. They have a 2¼" hole through the center. Between each pair of spacers a roller chain is strung on the sweep. The rollers and spacers are arranged on the sweep sections so there is a single spacer at each end of the center 16' (2.67 fathom) sections. On each of the 9½' (1.58 fathom) sections there are two spacers at the outer, wing, end and no spacers at the inner end that is adjacent to the center section. Each outer section has five rollers and ten spacers on it and the center section has 9 rollers with 18 spacers. There is a 4½" diameter steel washer at each end of each of the 5 sections of the sweep.

Seizings

Prior to 2001, the footrope was seized to the fishing line and not to the rings that are attached to the droppers. This change was made to eliminate the problem of the seizings slipping and bunching of the footrope.

The footrope is seized to rings that are used to attach the droppers to the sweep. The fishing line passes through the 3 ½" circular rings that the footrope is seized to.

Liners

The after part of the upper belly is lined with ½" mesh liner material, as is the entire codend. Both liners are made of ½" mesh #147 knotless white nylon webbing. The belly liner is 30' (5 fathoms) across the leading edge, 21' (3½ fathoms) down each side, and 18' (3 fathoms) across the after edge. The codend liner is 30' (5 fathoms) around by 24' (4 fathoms) long. These measurements are made with the meshes open but without stretching the webbing tightly. The belly liner is reinforced along the leading edge and down each side by gathering and seizing a 1/2' diameter roll of liner material. This roll of material is then seized to 54-thread strengthener that is knotted with an overhand knot every 8" along its length. The top belly liner is attached to the inside of the top belly 35 meshes up from the after end of the belly. It is also seized down the sides off the belly, 1 mesh in from the gore. The after end of the belly liner is not seized.

The codend liner is also reinforced along the forward edge by gathering and seizing a 1/2" roll of the material and then seizing onto a knotted 96/108 strengthener to it. This same technique is used down the gore of the liner where the two edges are joined, and down a false gore opposite the join. The after end is not reinforced. The codend liner is attached inside the codend to every mesh around the codend. This is done one and one-half mesh back from the codend - belly join.

Codend

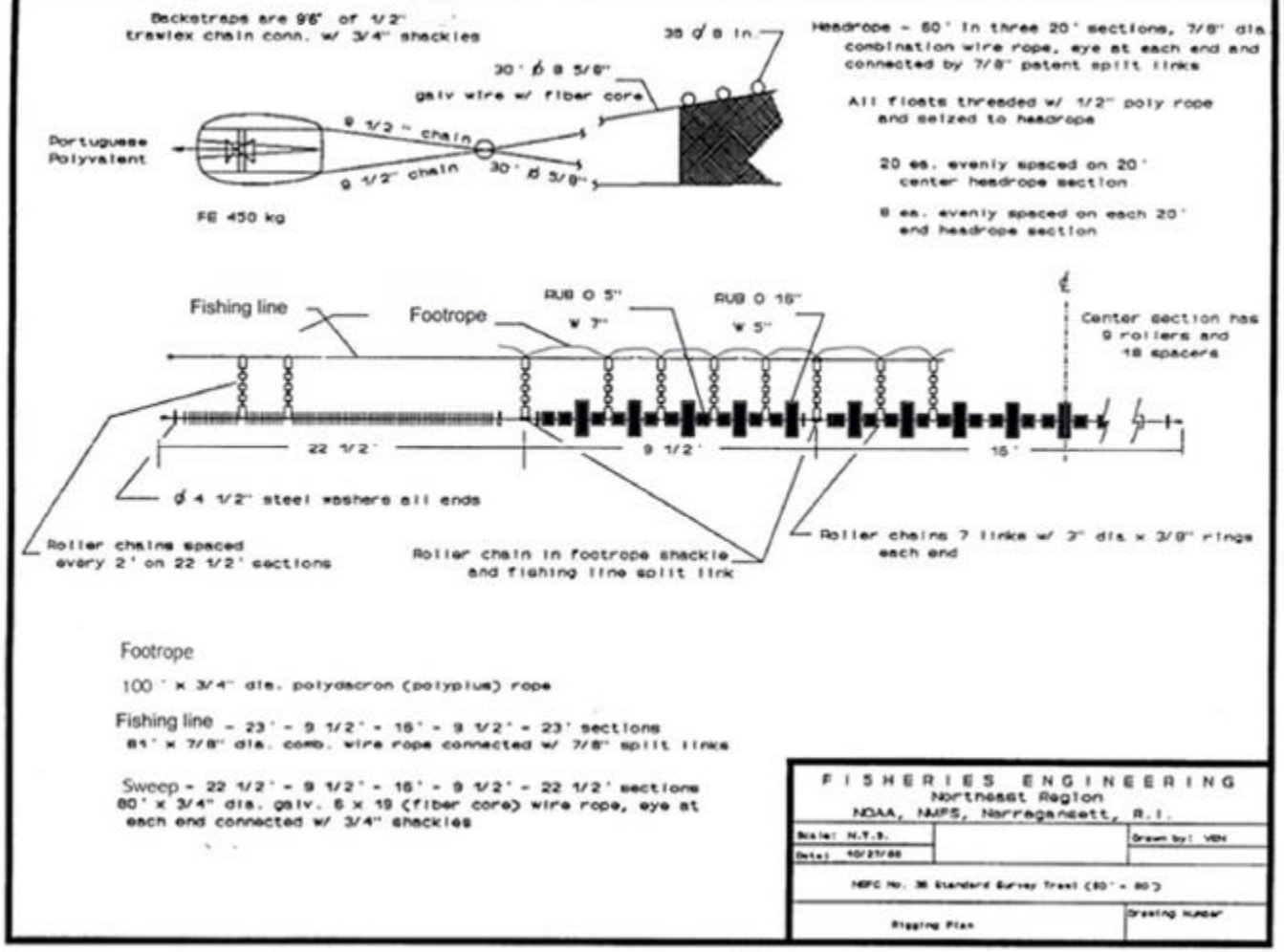
The mesh in the codend is 4 ½" " stretched mesh, center-to-center, single selvedge, stretched, and stabilized. Twine for the codend webbing is white #182 (Rtex 11764), 16-carrier virgin braided nylon. Rings are hung to the codend with codend twine at a ratio of one ring for each 3 meshes. Rings are 2" diameter galvanized steel made from 5/16" rod stock. The codend measures 50 meshes deep by 80 meshes in circumference. Chaffing mat is constructed from 4½" nylon and is 30Wx35D.

Legs & Ground cables

The upper legs are constructed from five fathoms of 5/8 in. wire. The lower legs are constructed from five fathoms of ½ in. chain. The backstraps are 9'6" of ½" Trawlex and are attached in the last aft hole closest to the aft end of the door.

Doors

The doors are Portuguese Polyvalent 450 kg (see door specifications).



Footrope

100' x 3/4" dia. polydacron (polyplus) rope

Fishing line - 23' - 9 1/2' - 16' - 9 1/2' - 23' sections
81' x 7/8" dia. comb. wire rope connected w/ 7/8" split links

Sweep - 22 1/2' - 9 1/2' - 16' - 9 1/2' - 22 1/2' sections
80' x 3/4" dia. galv. 6 x 19 (fiber core) wire rope, eye at each end connected w/ 3/4" shackles

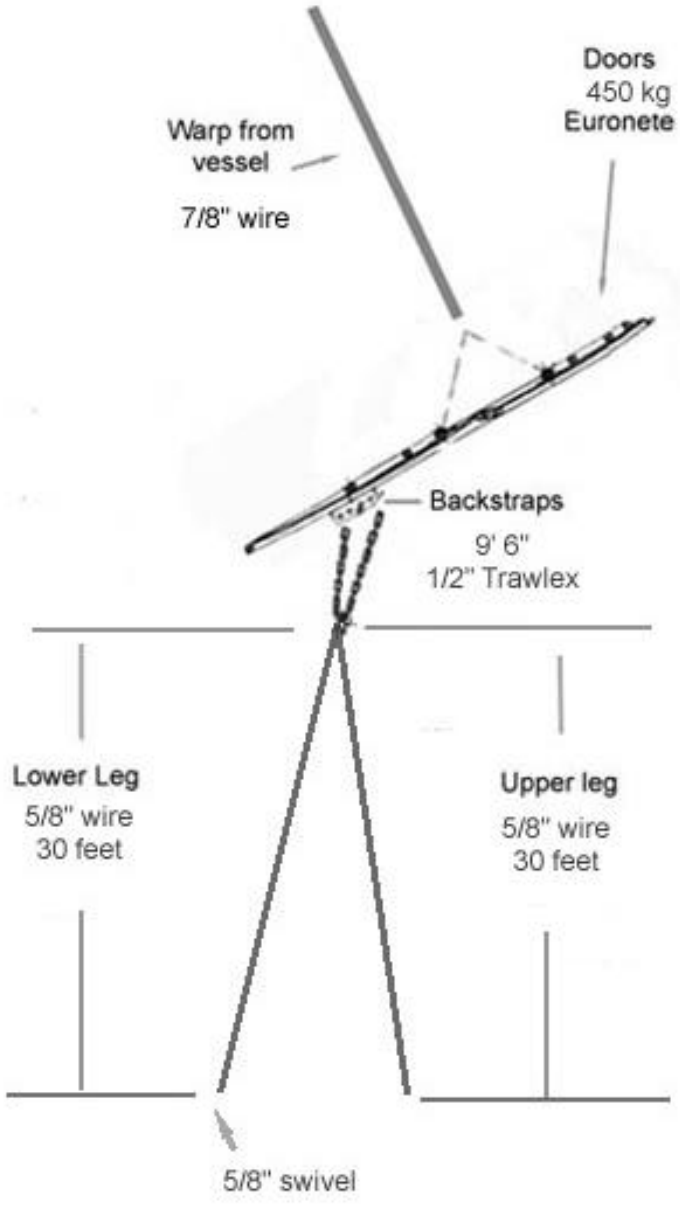
FISHERIES ENGINEERING
Northeast Region
NOAA, NMFS, Narragansett, R.I.

Scale: N.T.S.		Drawn by: VBH
Date: 10/27/88		

NEFC No. 36 Standard Survey Trawl (80' x 80')

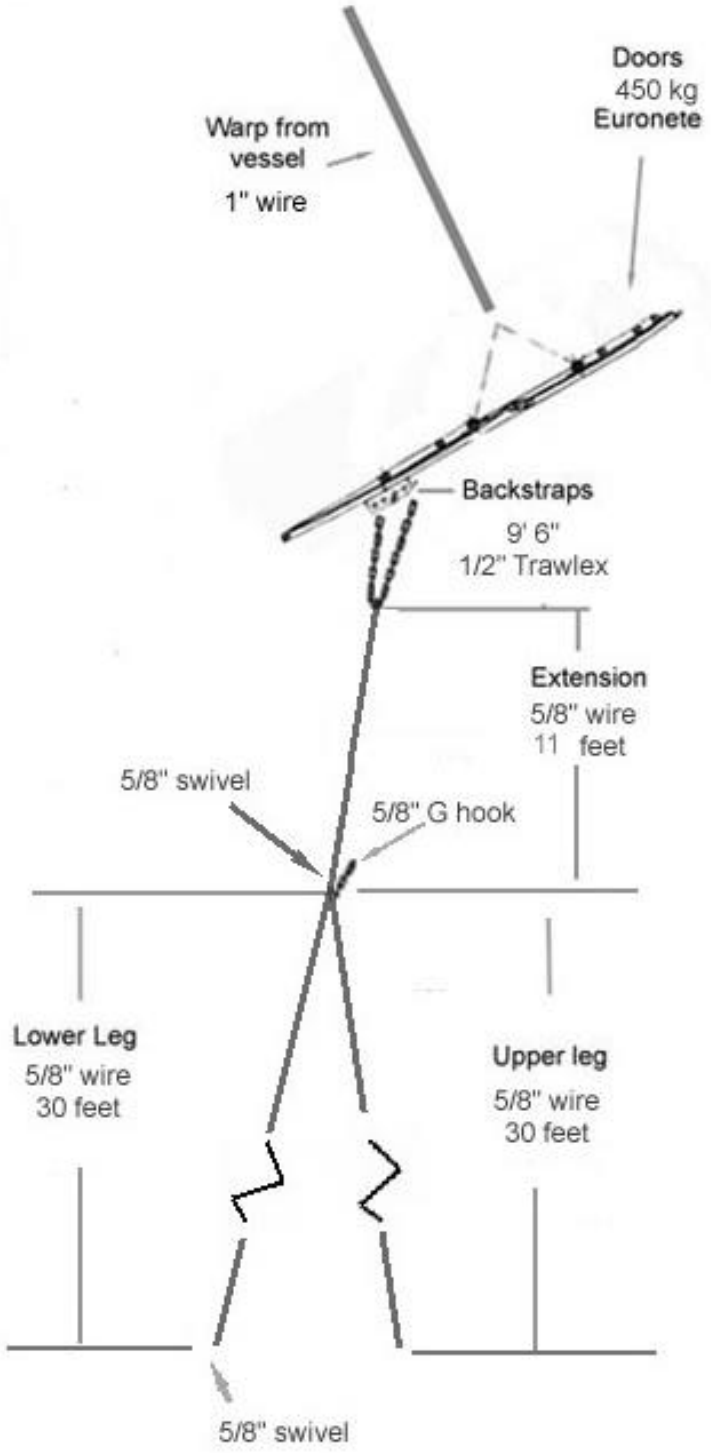
Rigging Plan	Drawing Number

Roller net - Albatross IV



A 17’ idler extends from the junction of the backstraps to the door

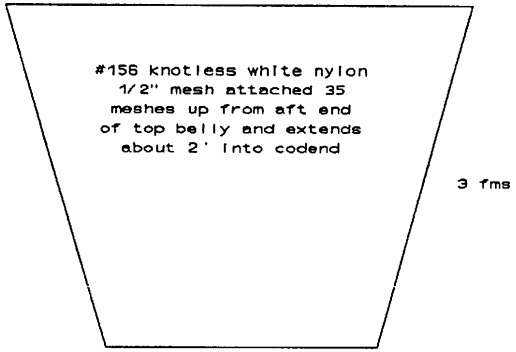
Roller net Delaware



The Delaware II uses an additional 11 foot extension between the backstraps and the legs to allow the crew to hook up the gear. Calibrations have been performed between the Albatross IV and the Delaware II and a conversion factor is applied to data collected from the Delaware to account for

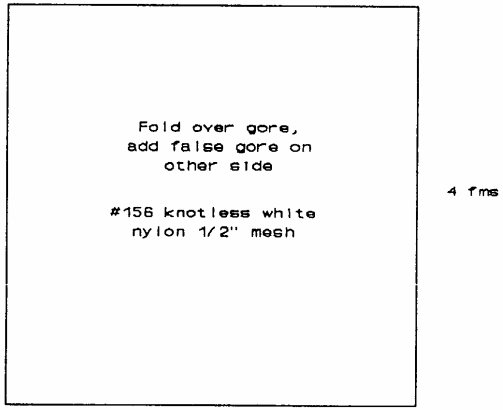
Top Belly Liner

5 fms



Cod End Liner

4 fms C



Both liners are seized on #54 knotted mending twine except for aft ends

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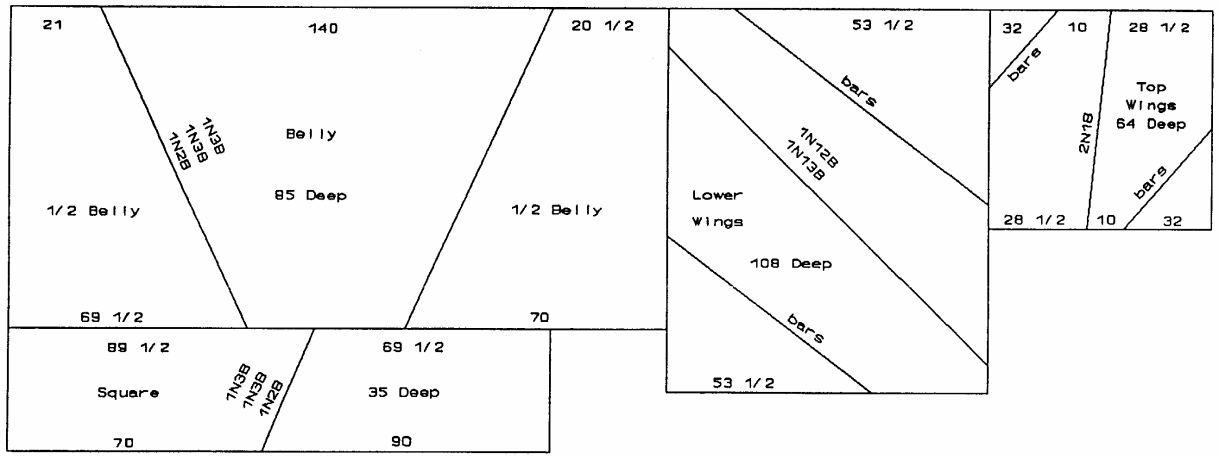
Scale: N.T.S. Date: 10/27/88		Drawn by: VEN
NEFC No. 36 Standard Survey Trawl (80' - 80')		
Codend and Top Belly Liner		Drawing Number



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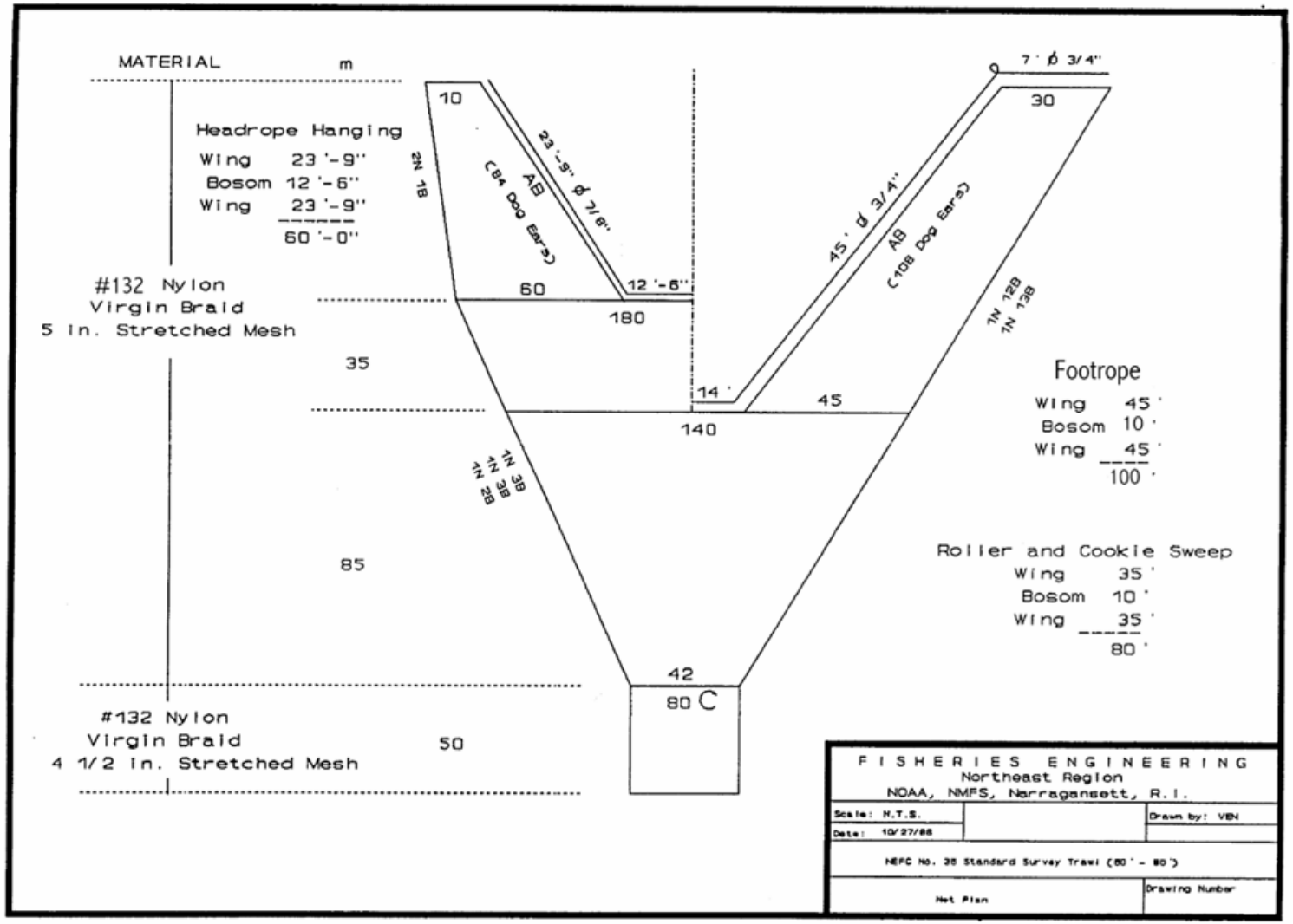
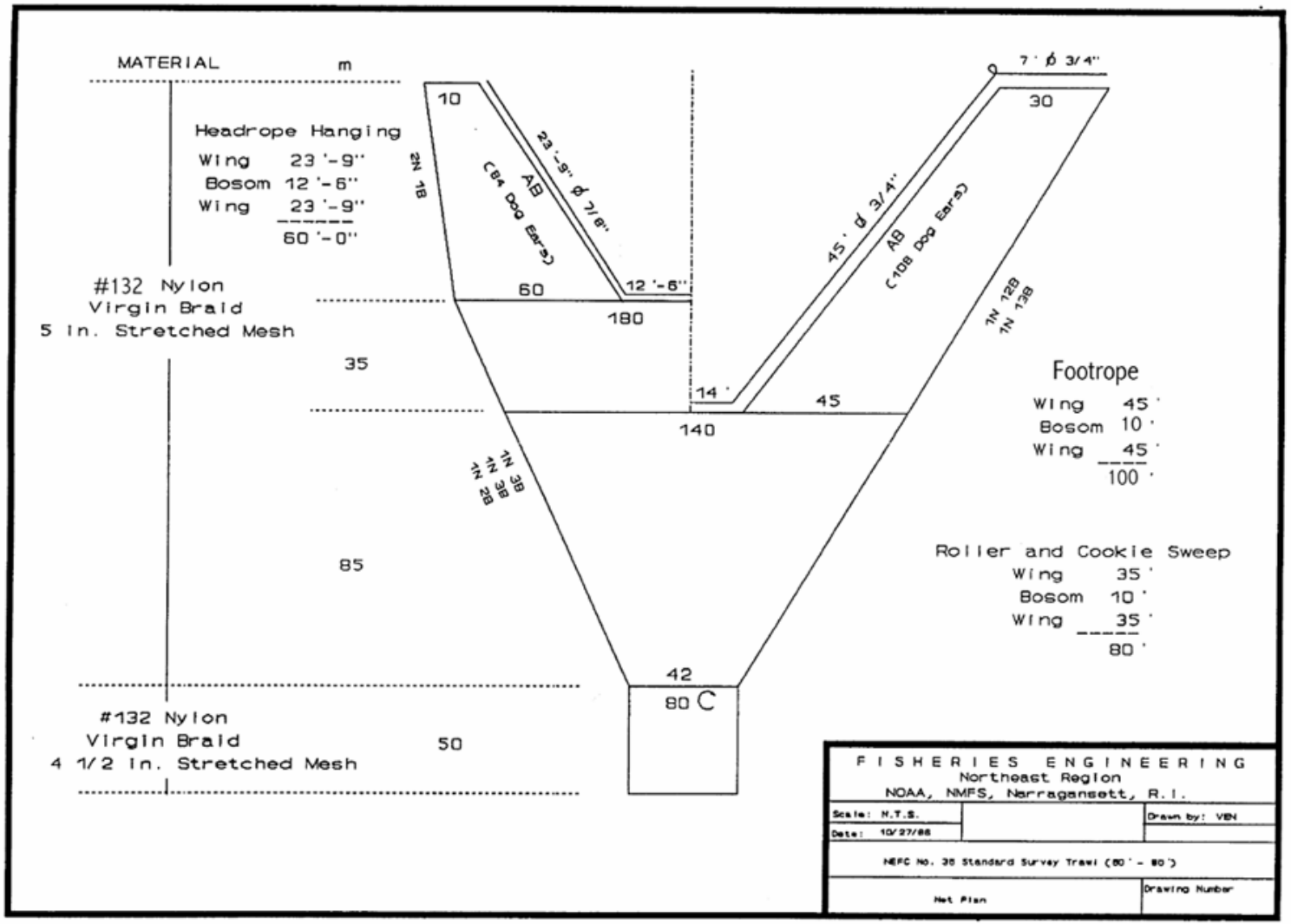
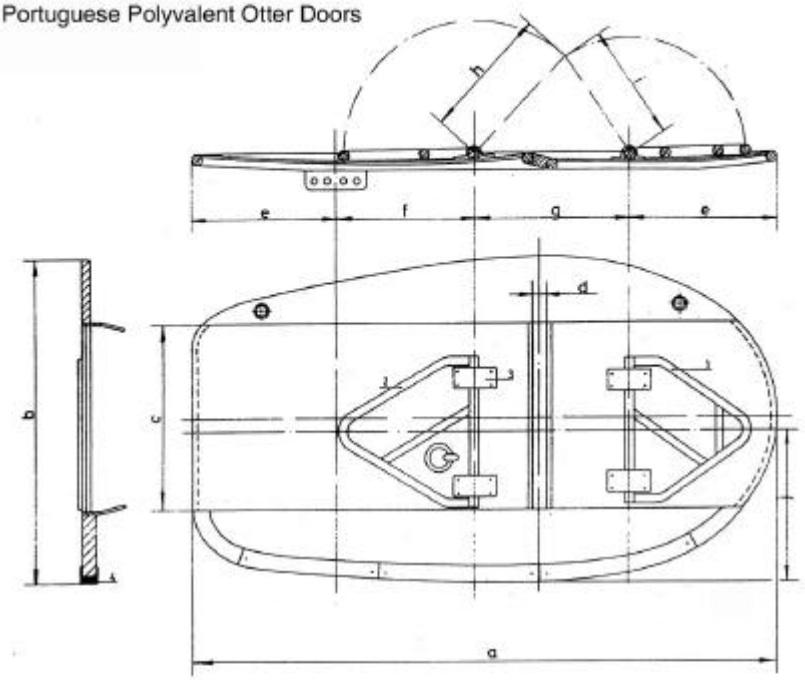
Scale: N.T.S.		Drawn by: VEN
Date: 10/27/88		
NEFC No. 36 Standard Survey Trawl (60' - 80')		
Cutting Diagram		Drawing Number


MATERIAL
m
Headrope Hanging
Wing 23'-9"
Bosom 12'-6"
Wing 23'-9"
60'-0"
#132 Nylon
Virgin Braid
5 In. Stretched Mesh
35
85
#132 Nylon
Virgin Braid
4 1/2 In. Stretched Mesh
50
10
2N 1B
23'-9" ø 7/8"
AB
(84 Dog Ears)
60
12'-6"
180
7' ø 3/4"
30
45' ø 3/4"
AB
(108 Dog Ears)
1N 12B
1N 13B
14'
45
140
1N 3B
1N 3B
1N 2B
42
80 C
Footrope
Wing 45'
Bosom 10'
Wing 45'
100'
Roller and Cookie Sweep
Wing 35'
Bosom 10'
Wing 35'
80'
FISHERIES ENGINEERING
Northeast Region
NOAA, NMFS, Narragansett, R.I.
Scale: N.T.S.
Drawn by: VBN
Date: 10/27/88
NEFC No. 36 Standard Survey Trawl (80' - 80')
Net Plan
Drawing Number


MATERIAL
m
Headrope Hanging
Wing 23'-9"
Bosom 12'-6"
Wing 23'-9"
60'-0"
#132 Nylon
Virgin Braid
5 in. Stretched Mesh
35
85
#132 Nylon
Virgin Braid
4 1/2 in. Stretched Mesh
50
10
2N 1B
23'-9" ø 7/8"
AB
(84 Dog Ears)
60
12'-6"
180
7' ø 3/4"
30
45' ø 3/4"
AB
(108 Dog Ears)
1N 12B
1N 13B
14'
45
140
1N 3B
1N 3B
1N 2B
42
80 C
Footrope
Wing 45'
Bosom 10'
Wing 45'
100'
Roller and Cookie Sweep
Wing 35'
Bosom 10'
Wing 35'
80'
FISHERIES ENGINEERING
Northeast Region
NOAA, NMFS, Narragansett, R.I.
Scale: N.T.S.
Drawn by: VBN
Date: 10/27/88
NEFC No. 36 Standard Survey Trawl (80' - 80')
Net Plan
Drawing Number

Portuguese Polyvalent Otter Doors



EURONETE TRAWL DOORS - METALLIC

Ref.	Weight Kg.	Weight inside water	Surface m2	Sizes in mm									
				a	b	c	d	e	f	g	h	i	j
124	450	261	2,84	2530	1350	810	60	632,5	592,5	672,5	610	540	630

REPLACEABLE PIECES:

1 - Front bracket.
2 - Back bracket
3 - Brackets clamps
4 - Set of 3 steel shoes
5 - All bolts